

Elion Technologies & Consulting Pvt Ltd

Certificate

This is to certify that Energy Audit at **Baba Educational Society Institute of Paramedical College of Nursing, Matiyari, Chinhat, Lucknow-226028** was carried out for the year **2022 - 23**.

The campus administration has initiated measures to incorporate sustainable practices aimed at reducing energy consumption. These efforts include installing of solar power plant, use of BEE star rated appliances and transitioning to LED lights, all aimed at fostering energy efficiency across the campus.

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Audit Date – 04/07/2024
Valid Up to – 03/07/2025

Audit Officer

Certificate Number
EA/2024/BESI



ENERGY AUDIT REPORT
FOR
BABA EDUCATION SOCIETY INSTITUTE
OF PARAMEDICAL COLLEGE



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Acknowledgement


Elion Technologies and Consulting Pvt Ltd places on record it's thanks to Baba Educational Society Institute of Paramedical College of Nursing, Lucknow for entrusting the task of conducting energy audit study.

We acknowledge with gratitude the whole hearted support and cooperation extended by all team members while carrying out the study.



Site Information

Name of College	Baba Educational Society Institute of Paramedical College of Nursing
College Address	56, Deva Road, Matiyari, Chinhat, Lucknow.-226028
Execution Partner	ELION Technologies & Consulting Pvt Ltd
Communication Address	307, 3rd Floor DDA Lal Market H-Block Vikas Puri, New Delhi, 110018
Date of Audit	04 th July 2024
Year of Audit	2022 – 2023
Audit Participants from Site	Mr. RK Vajpayee Dr. Archana Chouhan Mrs. Smita Dr. NitinSoni Dr. Hemendra Pal Singh Dr. Manita Acharya Mr. Ankur Sharma Ms. Jyoti Shukla Mrs. Sanjana Ojha Mr. Manoj Mr. Sarvesh Chandra Mr. Ranjeet Mr. Darmender
Total College Area	2.54 Acres
Total Green Area	1.09 Acres.


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Executive Summary

Baba Educational Society is registered under Societies Registration Act xxi of 1860 and also under disabled welfare department. It was established in July 1999 with the main objectives of providing education, medical and social services to the deserving population of the society.

Paramedical staff plays a very important role in helping the doctors in making accurate diagnosis and treatment of the patients. Paramedics along with the doctors are responsible for the proper functioning of any hospital. The field of Paramedical Sciences includes Physiotherapy, Pharmacy, Nursing, Optometry O.T. technician etc.


The hospital is named 'BABA HOSPITAL' after the name of SHIRDI SAI BABA so that the blessings of Sai Baba would always be with the hospital and to remind us to follow the path of his teachings.

List of courses offered by the institute:

- M.Sc. Nursing (2 years)
- B.Sc. Nursing (4 years)
- General Nursing and Midwifery (GNM) (3 years)
- Auxiliary nurse midwife (ANM) (2 year)

Electricity is supplied by Local Electrical Distribution Company at and is stepped down to 415V using a transformer of rating 63KVA.

The energy audit included detailed data collection, analysis of data and identification of specific energy saving proposals.


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Chapter 01: Introduction

M/S Baba educational society institute, Lucknow evinced interest in availing the services of Elion Technologies and Consulting Pvt Ltd for conducting energy audit of their premise.

Elion Technologies and Consulting Pvt Ltd team conducted the Detail Energy audit on 04th July 2024.

This report is on the energy audit carried out M/S Baba educational society institute, Lucknow. The detailed energy audit comprised of the following activities:

- Data collection of power consuming equipment's.
- A brief session on energy management was conducted to seek more inputs from the personnel engaged in operation and maintenance of electro mechanical services.
- Analysis of collected data.
- Discussion with the officials on the identified proposals.
- Discussion and reporting of the findings of energy audit with the Engineers and management staff.

All the identified energy savings proposals have been discussed with the executives concerned before finalizing the projects.

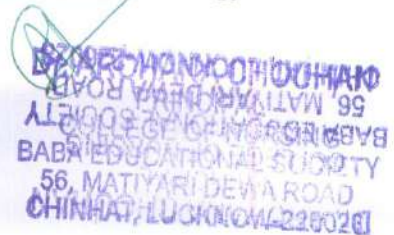
The contents of the report are based solely on the data provided by IIMR, Bangalore officials during the energy audit.

The management should implement the suggestions made in the report after verifying requisite safety aspects.

Methodology for Energy Audit:

The following is a list of general procedure and information undertaken during the energy audit:

- General information of the site.
- Baseline energy description.





- Past energy consumption bills which includes electricity bills.
- On site data collection
- Energy analysis of different sectors.
- Recommendation of energy conservation measures.

The primary goal of the energy audit was to identify sources and areas of potential energy savings and cost saving throughout the campus by measures of optimization, replacement, retrofitting, and on the other hand, to also provide recommendations on operational and maintenance practices improvements.


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Chapter 02: Energy Consumption Details

Following table below show the electrical utilities installed in the campus:

Rating of Transformer (in KVA)	63 KVA
Year of installation of the Transformer	2020-21
Rating of DG Set (in KVA)	Kirloskar DG, Generator (45 KVA, 30 KVA, 12 KVA)
Rating of Capacitor Bank (if present)	NA
Capacity of Solar Power Plant (if installed)	50 KVA

The main areas of energy consumption as observed during the audit are as follows:

- Air Conditioners
- Lighting
- Fans
- Motors & Pumps
- Desktops & Printers

The main sources of energy to meet the required consumptions are as follows:

- Electricity supply from Power Distribution Company.
- Backup power from DG Set.


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Chapter 03: Lighting System

Following is the summary of lights installed at various locations of the college campus:

Type of lights (LED/CFL/Conventional Bulb/Tube Light)	Location	Rating	Quantity	Number of Hours being turned on
LED Bulb	Academic Block	80 W	05	08
		12 W	13	05
	Administrative Block	12 W	02	05
	Hostel/ Mess	09 W	127	16
		12 W	04	16
Simulation Lab	09 W	04	18	
LED Tube Light	Academic Block	20 W	39	06
	Administrative Block	20 W	26	16
	Hostel/Mess	20 W	42	16
Tube Light	Academic Block	40 W	39	08
	Administrative Block	40 W	20	12
	Hostel/ Mess	40 W	93	16
Sodium Light	Campus	100 W	06	12
Concealed Light	Simulation Lab	12 W	134	06
	Administrative Block	12 W	82	08

Observation:

- Most of the lights used in the campus are LEDs. Campus has replaced all the conventional lights with energy efficient LED lights which is a good practice.
- Sticker to "SWITCH OFF LIGHT" and "SAVE ENERGY" are displayed in the rooms.

Recommendation:

- Regular cleaning of light fixtures to be done to get maximum lux level.


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Chapter 04: Air Conditioning

Split, Ductable/VRV and Cassette Air Conditioners are used in facility for air conditioning. Following is the list of ACs present in the campus:

Type of AC (Windows/Split/Package and Location)	Capacity in Ton	Whether any star rating available	Set Temperature	Running Hours	Whether AC performance is satisfactory (Yes/No)
Split AC Director Office	2.5	05	22	NA	YES
Split AC Principal Office	1.5	05	24	NA	YES

Observation:

- All air conditioners are found to be functioning properly and well maintained.
- Regular servicing and maintenance of air conditioners are done with proper cleaning.

Recommendation:

- All doors to be kept closed while using the air conditioners and regular annual service of AC's should be carried out.
- Set Temperature of Air Conditioner shall be maintained at 26°C.
- A reduction in 1°C set point temperature, the energy cost comes down by 5%. By carefully selecting the seasonal temperature in different areas as per requirement considerable saving on account of power consumption can be achieved.
- Whenever Air Conditioners are replaced in future, BEE 5 star rated air conditioners shall be considered which are energy efficient.
- Installation of AC energy savers can be considered for air conditioners having longer running hours.


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Chapter 05: Pumps and Motors

Observation:

There are four water pumps installed across the campus. These pumps are strategically placed to ensure efficient water distribution and management throughout the Campus. All pumps and motors are functioning properly and well maintained.

Recommendation:

Proper maintenance and upkeep of pumps and motors to be done.


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Conclusion

The energy audit performed at Baba Education Society Institute showcased commendable efforts towards sustainability within the college. The replacement of conventional lights with energy-efficient LED alternatives marks a significant stride in reducing energy consumption.

Despite these advancements, there remains untapped potential for further enhancing energy efficiency. The audit report likely contains specific recommendations aimed at maximizing sustainability efforts. Implementing these suggestions could significantly bolster the college's energy-saving initiatives, continuing the positive trajectory towards a more environmentally conscious campus.


End of Report


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DISCLAIMER

All information contained in this report is based on the data available and observations made during the audit. All recommendations made in this audit report should be duly evaluated by the management before implementation.

Elion Technologies and Consulting is not liable for any damages incurred by the organization through implementation of the energy saving proposals either to it or to any third party getting impacted by the implementation of this report.

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